Universität Basel

Research Project

Real-time Evolutionary Tracking for Pathogen Surveillance and Epidemiological Investigation

Third-party funded project

Project title Real-time Evolutionary Tracking for Pathogen Surveillance and Epidemiological Investigation

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Organisation / Research unit

Departement Biozentrum / Computational Modeling of Biological Processes (Neher)

Department

Project Website http://nextstrain.org

Project start 01.04.2017

Probable end 31.03.2020

Status Completed

Genome sequences of viral pathogens have the capacity to provide valuable insight into epidemic transmission patterns and viral evolution. But to inform public health interventions in acute public health crises, genomic data has to be analyzed and results diseminated in near real-time. The goal of this project is to promote open sharing of viral genomic data and harness this data to make epidemiologically actionable inferences. For this project, we are developing an integrated framework for real-time molecular epidemiology and evolutionary analysis of emerging epidemics, such as Ebola virus, MERS-CoV and Zika virus. This framework includes an online visualization platform deployed to the website nextstrain.org that is continually updated as new data becomes available. This platform pools data from across research groups thereby synthesizing disparate datasets and serves to promote open science in the face of public health crises. All source code is publicly available at github.com/nextstrain.

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Foreign Governmental Research Agencies

Foundations and Associations

Add publication

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